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Component	Wt %
Flavor	1.30
Sodium alkyl sulfate (27.9% aqueous solution)	5.00
Carbopol 940S (available from B. F. Goodrich)	0.20
Xanthan gum	0.60
Carboxy starch polymer of Example I	5.00
Distilled water	Balance

The above composition is made by combining the water, TMS/TDS and part of the sorbitol in an agitated mixture and heating this mixture to 140° F. The carboxy starch polymer, saccharin, sodium fluoride and precipitated silica are then added in order and the total mixture is mixed for from 5 to 10 minutes. The flavor, dye and surfactant are then added. In a separate vessel the remainder of the sorbitol, the Carbopol and the xanthan gum are slurried together and then added to the main mix tank. The complete batch is mixed for about one-half hour and subsequently milled and deaerated.

## EXAMPLE III

This example illustrates the preparation of a typical carboxy starch polymer used in this invention.

A reaction vessel is charged with 8.0 parts of corn starch and 400 parts of water at 80° C. The resulting suspension is cooled to 0° to 5° C., whereupon 16.1 parts of sodium metaperiodate are added. The pH of the mixture is adjusted to a level of 5.0 by the addition of sufficient glacial acetic acid and the reaction is allowed to proceed, under agitation, at a temperature of 0° to 5° C. for a period of 42 hours. The reaction mixture is centrifuged and the dialdehydestarch precipitate is then washed with water to remove all traces of inorganic salts.

Thereafter, a reaction vessel fitted with a condenser, a drying tube and means for mechanical agitation, is charged with a solution of 3.8 parts of dinitrogen tetroxide in 250 parts of dry carbon tetrachloride. This solution is vigorously agitated, whereupon 4.0 parts of the above prepared dialdehydestarch is incrementally added thereto. The reaction is allowed to proceed at room temperature for a period of 22 hours. The mixture is then recharged with 3.8 parts of dinitrogen tetroxide and the reaction is allowed to proceed for an additional 48 hours. The excess dinitrogen tetroxide is removed by bubbling nitrogen gas through the system until the red nitrous oxide fumes have substantially disappeared. The white solid product is then filtered, washed with water and dried.

## EXAMPLE IV

The following is another representative toothpaste of the present invention.

Component	Wt %
Sorbitol (70% aqueous solution)	50.75
TMS/TDS (per Reaction A)	1.5
Sodium saccharin	0.30
Dye solution	0.35
Precipitated silica	18.5
Sodium fluoride	0.25
Flavor	1.30
Sodium alkyl sulfate (27.9% aqueous solution)	5.00
Carbopol 940s	0.20
Xanthan gum	0.60
Carboxy starch polymer of Example III	4.15

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Component	Wt %
Distilled water	Balance

In addition to the levels and combinations of ingredients shown in these examples, others can be used which are consistent with the invention disclosed.

## EXAMPLE V

This example illustrates the preparation of a typical carboxy starch polymer used in this invention.

A reaction vessel is charged with 49.1 g of commercial non-defatted cornstarch and 300 mls of water at 25° C. to form a suspension. 71.3 g of unbuffered sodium metaperiodate in 910 ml. of water are added to this suspension to form a reaction mixture. The reaction is allowed to proceed, under agitation, at room temperature for a period of 22 hours. The reaction mixture is filtered and the dialdehyde starch precipitate is then washed with water to remove any traces of inorganic salts.

Thereafter, 45 g of the dialdehyde starch precipitate is charged into an open beaker. 203 g of 1 M NaClO<sub>2</sub> and 64 ml. of glacial acetic acid are then added to the open beaker to form a slurried reaction mixture. The oxidation reaction of the dialdehyde starch is allowed to proceed, under agitation, at room temperature for a period of 22 hours. As the reaction progresses, the reaction mixture changes from a light yellow to an orange color with the evolution of a considerable quantity of chlorine dioxide gas. At the conclusion of the reaction nitrogen is bubbled through the reaction mixture to remove all but traces of chlorine dioxide, and the solution is adjusted to a pH ranging from 8 to 9 with 50% NaOH solution.

The oxidized product is precipitated by pouring the reaction mixture, with rapid stirring, into 2 volumes of absolute ethanol, and then filtered. The filtered starches are then reprecipitated in this manner to afford 9.4 g of carboxy starch having a degree of carboxylation of 1.9.

## EXAMPLE VI

This example shows a mouthwash composition containing a carboxy starch polymer of the present invention.

The mouth rinse is prepared as follows:

Component	Wt %
Carboxy starch polymer of Example V	4.00
TMS/TDS (per Reaction A)	1.0
Ethanol	16.25
Glycerin	10.00
Nonionic surfactant	0.12
Benzoic acid	0.05
Sodium saccharin	0.05
Flavor	0.15
Color	0.04
NaOH (10% Sol.)	0.15
Distilled water	Balance

The mouth rinse is prepared by adding each of the ingredients to the distilled water and stirring.

Other representative examples of compositions according to this invention are as follows.